A Metaphor's Power Over Salience and Ideology

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A new global resistance to plastic consumption began with Captain Charles's Moore, who in 1999 "discovered" that the Eastern and Pacific Gyres were accumulating gross amounts of plastic debris from human waste. When humans improperly dispose of their plastic, river mouths and storm drains channel it as weather and water wash into the ocean. Once there, massive gyres formed by wind and tide pull the debris along as it accumulates with other sources of waste. The diversity of plastic shapes, densities, and strengths pose a lethal threat to many marine inhabitants. A study done in 2002 titled "The Pollution of Marine Environment by Plastic Debris" found that marine invertebrates and sea birds mistake the plastic for food sources like plankton and fish. Moore's 2002 survey of the Eastern Pacific Gyre found a plastic to plankton ratio of 6.9 to 1. Categorizing plastic harm at varying levels of ocean depths reveals the complexity of the issue. The flotsam plastic can be both mistaken for food by albatross as well as harbor invasive species across the ocean. Large submerged plastic pieces and nets entangle everything in their path. The pollution can come back to harm humans through ingestion of the toxic plastic chemicals by fish, who eat the smallest plastic pieces, that work their way up the food chain, a process known as bioaccumulation. Consequently, consumers need to know the problem they potentially create every time they use plastic. Many people from a range of professions have taken the steps within their power and influence to increase awareness and stop the problem from growing. However, the topical metaphor used by the public to describe the phenomena limits their ability to fully explain multidimensional harms of plastic pollution.

The metaphor "garbage patch" dominates the discourse of marine plastic pollution. Appropriated by the masses, in everything from scientific journals to YouTube videos, this framework suggests that there are landfills in the ocean. Of course, a garbage patch is supposed

to be on land, and the paradox of one in the ocean stands out as abnormal and possibly threatening. However, the attention drawn comes at the expense of the larger message that seeks to deal with the situation. As we will explore, the metaphor succeeds in catching attention, but fails to carry the severity and complexity of the situation with it. Michael Osborn describes rhetorical determinism as where, "the choice situation which a speaker thrusts upon his audience always concerns the acquisition of an attitude or the adoption of a solution" (308). The misrepresentation of the garbage patch and similar metaphors fail to instill the proper attitude and adoption of any realistic solution.

This paper examines how metaphorical language created for an ideology, which shapes the evaluative beliefs of its audience, can also lead to the ideology's destruction when there is an absence of fidelity to the research and findings. Misleading metaphors promote misguided actions from the audience who therefore no longer subscribe to its larger ideology. The metaphor must be replaced in order for the ideology to regain its persuasive power to form pragmatic pathways of behavior for its audience. The problematic discourse sustains itself from media outlets who, as Robert Ivie previously identified about speakers, "lose sight of alternatives when they become accustomed to routine extensions of images no longer in service to their original purposes." (319). I will argue that not only does the metaphor suffer, but because the metaphor is a structure in a larger ideology, that the ideology suffers. As will be illuminated, the metaphors *garbage* and *dump* defined the entire situation. The related and responsive articles show how those who have the power to shape the meaning of a word must consider not just what they want its significance or affect to be, but the lasting principles identified with the larger ideology. If they do not, the phrase will stand to lose its power along with the credibility of the ideology. Also, this paper will contrast the article's responses from the media, general public, and

environmental groups. In addition, we will look at the ramifications for the use of similar rhetorical tools used by opposing belief systems on a common audience. As of yet, there have been few attempts from pop culture crafted solely to redefine the problem of marine debris from the idea of a floating island to one of contaminated waters. All fall short to reframe the issue by their continuation of the same metaphor. We will end with a look at how and why to change a metaphor to one that captivates and motivates people into seeing the big picture.

Background

Although Moore witnessed the vast amount of debris in the middle of the ocean, Ebbismeyer had been studying how material got there for decades. According to his book *Flotsametrics and the Floating World*, his fascination for marine debris highways came from his curiosity for the trail of Nike shoes that washed ashore on the coast of Seattle. He had studied smaller "marine microcosms" (17) that led to discoveries about the nature of bodies of water that would eventually help solve the mystery of the Nike shoes. These studies would even lead to the terming of the pathways created by forces within the ocean. Aided by environmental writer Eric Scigliano, he fills his book with analogies and stories to make simple the dynamics of the ocean. Ebbesmeyer's contribution of the metaphor "garbage patch" proved both descriptive and captivating to audiences as evidenced by their response. However, this term's success in drawing attention to the issue eventually fails because of its limited locus and scope. Although he has a sincere respect for the ocean, he is not an "environmental radical" or someone who might make some financial gain from saving the ocean from plastic. Therefore, it would be wrong to assume he intended to confuse his audience with the notion of a floating plastic dump similar to ones found on land. He does, however, clearly want to create an exigence surrounding the topic. Not only will discussing the weak condition of our ocean shed light on humankind's bad habit of

plastic abuse, but it also could change the way people deal with environmental issues all together. For example, people could begin to invent ways to clean up the ocean debris rather than change their behavior, only to make the mistake again. Motivating symbols certainly have their place in environmental rhetoric and policy, yet their nativity must consider the inherent power over future discourse within the general public so as to receive their appropriate support.

Moore's first expedition on the research vessel Algalita collected data from the Northern Pacific Ocean. His team found plastic debris in a region equivalent to the size of Texas, which became a common anchor term for illustrating the affected area. Three years later he returned to find the affected area had doubled in size (algalita.org). From these metaphors came a slough of descriptive and analogous words to accompany the research findings. For example, the word "flotsam" refers to debris, such as plastic, that floats on or near the surface of the ocean. According to the National Oceanic Atmospheric Administration (NOAA) website, "Most commonly used plastics *do not* mineralize (or go away) in the ocean and instead break down into smaller and smaller pieces." While much of the plastic can be found washed ashore on beaches that border the gyres, the debris may take over 56 years to wash up. This data comes from the many cases from researchers and citizens who tag or label a floating object in hopes of one day receiving the objects and collecting data on their returned date and location. Ebbessmeyer published a list of 32 such entities, none of who retrieved more than 50 percent of their output (Appendix B).

Historical Uses of a Metaphor

Metaphors help to communicate the complexity of complex ideas, like scientific jargon, in a simplified and often more relatable framework to the laymen. The uses of metaphors have evolved over centuries as rhetors discovered their capabilities. Metaphors are viewed in three

distinct ways: ornamentation, interactionist, and pragmatic. Aristotle began the discourse of a metaphor's purpose by stating that they, "give clearness, charm, and distinction to the style" (Poetics 21). This idea reduces a metaphor's use to simple ornamentation. He suggests that the only requisite for creating a metaphor is, "to have a command of metaphor… is the mark of genius, for to make good metaphors implies an eye for resemblances" (89). Although more people are educated in elementary linguistics today that are taught to understand such similarities, crafting an appropriate metaphor may take some thought, especially when considering its power. Richard Weaver points to the former abate of metaphorical use, "This theory has been fully discredited …by those who have gone the furthest into the psychology of language itself" (Ethics of Rhetoric 202).

Eras later, I. A. Richards began to explain the relationship between a metaphor and its referent which helps to explicate its ability to make the unknown known. He hailed the words *tenor* and *vehicle*, which refer to the target domain and source domain, respectively (Foss 267). These terms made analysis into their relationship possible, known as an Interactionist perspective. An upcoming example uses poison pills metaphor as a metaphor to describe the plastic particles in the ocean. The word "pills" acts as the vehicle to illustrate the tenor for small plastic pieces that get ingested by fish. The vehicle "poison" refers to a tenor that is a phenomenon. When plastic degrades into the ocean, it leaches toxic chemicals that it would not ordinarily do in its original inert form. Susan Jobling, an environmental toxicologist at Brunel University, explains, "the impact of finding of intersex fish… led to the discovery that phthalates and Bisphenol A could cause effects on the endocrine system" (Plastic Planet). The vehicles carry the take away message of the tenors implications. Still, the interactionist perspective was only the foundation to the next theory.

Scholarly critics of performed speeches and writers who wished to understand the meaning produced by metaphors switched the locus of their study from a referent-focused subset of exegesis to a hermeneutic adaptation of functionality. This new theory, knows as a pragmatic approach, gave scholars the insight into, "how people use (metaphors), not how they work" (Ausmus 65). Ivie explains a Metaphor's properties of invention as its ability for, "Elaborating a primary image into a well formed argument produces a motive, an interpretation of reality, with which the intended audience is invited to identify" (318). The pragmatic approach aided scholars in their analysis of texts and developed the foundation for new applications of a metaphor.

Rhetors began to look at the power of metaphorical language in the responses of people's beliefs and behavior. Richards discusses this critical approach as when the metaphor is, "imagined to be that very thing which it only resembles" (Richards, 1965, pp.100-101). These ideas can dictate behaviors by, "providing motives for acting certain ways" (269). Metaphors frame a situation that then influences the attention and responsive actions for audiences. Foss provides four steps to analyze an artifact. I will use these steps to find out what ideology the rhetor wants to persuade with the use of their metaphor, and where the ones in my particular artifact began to fail. As some of her steps have already been done in this paper, I will focus on steps 3 and 4 by "sorting the metaphors into groups according to vehicle and tenor and discovering an explanation for the artifact" (272). I will continue with Foss's method by weighing the frequency and tendency of the metaphor's use to assess why audiences ignored contrary scientific findings against the image of the metaphor.

Analysis of Metaphor

The use of vehicles in the three following articles will help to understand how the rhetors shaped audience's perspective on the issue. To preview, three groups of vehicles appear in the

Ted Talks by Charles Moore, a coverage story by the *New York Times*, and related web content. Each vehicle group refers to the plastic pollution that has accumulated in the North Pacific Ocean. First, the *flotsam group* includes vehicles that refer to debris that floats. Next, the *solid group* includes metaphors that refer to something solid, such as a "garbage patch" and "ocean dump". Finally, the *liquid group* refers to aqueous solutions such as "gutter puddle", "plastic soup", "swamp" and "liquid graveyard". In addition to the phrases themselves, the language accompanying the metaphors sheds light onto the image that the rhetor produces, pictures provide context, and text size emphasizes importance.

Charles Talks to Ted Talks

News broke into the scientific community's sphere of salience in February of 2009 at a TED Talk by Moore. His briefing covered the contributing sources and oceanic forces that create what he claimed, "we call the *Eastern Pacific garbage patch*." This metaphor came from fellow oceanographer Curtis Ebbesmeyer, who had been studying oceanography since 1965 at the University of Washington. Moore puts forth four metaphors for the phenomena: garbage patch, plastic soup, bottle repository, and poison pills (ingested plastic fragments). He described the chronologically and geologically dependent path of flotsam plastic within the Pacific Ocean. The presentation was complimented with a slideshow of pictures and one interview video. the photographs of plastic pollution can force a perspective onto the text. Images of the North Pacific Ocean with a darkened graphic that represented the area affected by plastic accumulation looked similar to a convergence zone of flotsam. Furthermore, his use of photographer Chris Jordan's depiction of two million water bottles floating together furthered the notion that the plastic was in one place. As MPR news pointed out, many pictures were cropped together and edited to look like a single mass of waste (MPR 2012). However, Moore showed unedited pictures of albatross

from Midway Island who had died with large amounts of plastic inside their stomachs. The picture effectively and realistically reveals the result of eating the "plastic soup." Next he showed pictures of fish that had ingested plastic. The fish ate what he called poison pills, a metaphor for plastic fragments that leach toxic chemicals, which could later be eaten by predators. He had presented three distinct metaphors that referred to the plastic pollution in the ocean. Now, the public and media had the choice of how to frame and focus attention to the subject. As evident in sources from newspapers to YouTube videos, they chose the garbage patch metaphor.

Metaphors Set in Stone

In October 2009, *Rolling Stone Magazine's* environmental columnist Kitt Doucette wrote the first article on the topic that attempted to change the way we frame our dialogue about the plastic pollution in the ocean titled "An Ocean of Plastic." The article reveals one of humanity's dirtiest secretes to over 1.4 million readers, it encouraged the audience to confront the problem, and it shows rhetoricians how misleading metaphors can negate it all. In his article, Doucette explains how plastic debris and other garbage washes into our rivers and oceans where it ultimately accumulates between two oceanic gyres in the Pacific Ocean. His noble article successfully takes an environmental issue, on which its audience is guilty of, and turns an epidictic discourse into an informative and empowering conversation about humanity's role in the issue. However, his attention grabber confuses as many of its audience members as it motivates. He claims that the plastic marine debris has, "formed a vast floating garbage dump that's twice the size of Texas" (54. RS 1090). In reality, massive quantities of tiny plastic debris have saturated an area of the ocean to varying depths and boundaries. After all, the ocean is a fluid, the state of Texas is a solid. In opposition to all other writers and thinkers who benefited

from the awe factor from the metaphor, Doucette explained, "The first thing you need to know about the Great Pacific Garbage Patch is that… its name is disgustingly inappropriate" (54). He continues, "in reality, the patch is a swirling vortex of plastic soup." However, it took Doucette just over two hundred and forty words, a significant decrease in font size, and a large picture of a pile of marine debris, to state this. The metaphor had already been spread, and for many, introduced into their consciousness. He even quotes Mary Crowley, who paints a contradictory picture, "you see this never ending plastic confetti" (54). One could assume the island simply lost its structure. As responses from individuals and news articles dealing with the same topic show, people literally thought there was a dump, even an island, of garbage well over fifty-three thousand square miles wide. What Doucette meant, as most scientific scholars understood, is that the massive gyre contained this amount of plastic mostly in the form of tiny photo degraded plastic particles. Unfortunately, the debris are real, the island dump is not.

The New York Times Crosses the Line

Initially, the trope of a "floating garbage dump" stuck. Some newspapers explained the gyre as a soup but still used pictures of small areas where trash floated together in an island-like formation. One month after Doucette's article, Lindsay Hoshaw's article for *The New York Times* titled "Afloat in the Oceans, Expanding Islands of Trash" built on this symbol of an island. Her article shows how popular discourse adopted the metaphor even when the author's content contradicted the images bought with it. Her article focuses on the transfer process of chemicals that leach out of plastic into the aquatic environment. The end of her article appropriately explains how scientists, "collect small plastic fragments." (3). Still, she uses quotes from Moore that create a captivating image of floating garbage. She quotes Moore: "anywhere you really look for it, you're going to see it." When the public *looks* for something they open their eyes.

When Moore *looks* for something he trawls a net that collects the small particles of plastic that are suspended in the depths of the ocean. In her article, she uses the phrase garbage patch sixteen times, all under the heading of trash islands. She continues, “Dispersed trash doubles in size every decade and is now believed to be twice the size of Texas.” (1). Although garbage patch may not fit into a flotsam group, the language surrounding it suggests that the debris forms an island. While a better explanation of the plastic pollution in the ocean began to show up in popular news outlets, the metaphor had stuck.

Words Can Hurt

The way in which audiences interpret metaphors is so important because it encourages some modes of action and hides others. Kenneth Burke calls this “termanistic incentive” where a metaphor, “directs the attention into some channels rather than others” (1968, p. 45). Responses from media and the public have yielded two popular responses to the metaphors used by Moore and other’s who cover the topic. One, people foster a disbelief in the pollution altogether when they fail to find a non-existent floating island in the North Pacific Ocean. For example, the top rated comment of a YouTube video titled Planet 100: Pacific Trash Vortex Explained asks, “How come you never see actual aerial pictures of this vortex? If it's twice the size of Texas, why doesn't it show up on Google Earth?” And two, people believe that all of the debris is flotsam or has converged in a single location that makes picking up the plastic a viable option to resolve the issue. Those who ascribe to this second notion have already sprung up in political and scientific discourse. Change.org has a petition for the President of the United States to provide jobs where people clean up the garbage patch to help stimulate the economy. Similarly, a *Popular Science* magazine published an article in July of 2012 about a plastic-eating underwater drone that, “can return to an ocean base, where human crews will haul it up and empty the plastic

for recycling" (Boyle p. 1). However, estimates from the NOAA to clean up 1% of the ocean by boat reached as high as 489 million dollars. Both instances ignore the possibility to stop the waste that originates on land. If recycling is so important, then why don't efforts begin at the source? After all, America only recycles 8 percent of its plastic consumption, according to a study by the EPA in 2010.

What does this mean for the environmental movement that seeks to promote a healthier ocean by ridding it of plastic? As an ideology, it fails. For example, Benjamin Bates writes a metaphoric criticism titled "Audiences, Metaphors, and the Persian Gulf War" where he claims, "The failure to act out the implications of a metaphor is severe- it leads to the collapse of the metaphor" (Bates pp. 447-463). I argue that not only does the metaphor fail, but because the metaphor is a structure in a larger ideology, that the ideology falls with it. For the people who understand that trash from humans affect life in the ocean but fail to act properly, they actually sustain the problem. Cleaning up any plastic in the ocean does not help consumers on land who create and use the plastic. The problem will not go away until its source is stopped. Cleaning it up does not stop others from polluting. An ideology is both thought and action, so without linked action there is no successful ideology.

On the other hand, those who stand to gain from a failed environmental ideology have already begun to capitalize off of their misleading metaphors. Major plastics and packaging companies have, according to a membership list published by bagmoster.com, have responded with propaganda which they disseminate through their website titled savetheplasticbag.com. Among the many links that demonize and trivialize attempts from environmentalists who work to ban single-use plastic bags, the "Marine Myths" link has news articles and statements from professionals whose overarching theme is to place blame on other sources of plastic. For

example, an image under the banner, “What Are Albatross Ingesting, Not Plastic Bags!” shows plastic debris that washed ashore Midway Island (Marine Myths p. 6). They assume that because no plastic bag was shown in the image, that no plastic bags endanger ocean life. Furthermore, they draft off of the misleading “plastic island” metaphor to shake the faith of debris believers, “we challenge you to check Google Images to find a single photograph of it” (Marine Myths p. 7). Of course, the island is false, the pollution is not.

How to Change a Metaphor

The question now arises; What do environmental rhetoricians, scientists, and the public do to fix the linguistic issue that stands in the way of working towards a plastic pollution-free ocean? Change the metaphor. Feldman provides four steps to changing a metaphor. They are: stop repeating their words, go to another frame, build a new frame, break it down, framing is action (Feldman 9- 12). Moreover, not only does the discourse need a new metaphor, but also it must switch frames. One who crafts a new metaphor should consider: the varying size and depth of the marine debris area, what behavior is responsible for the garbage, and what the plastic particles affect. Fortunately, environmentalists have crated several solutions to what is known as “kicking the plastic habit.” Beth Terry recently released a novel titled *Plastic Free: How I Kicked the Plastic Habit and How You Can Too*. Although this idealistic lifestyle may be unrealistic for the general public, it takes a step in the direction towards what Doucette and Moore claim to be the solution to the plastic pollution. A likeminded blog called 5Gyres, referring to the number of gyres in the world, has a mission statement to “conduct research and communicate about the global impact of plastic pollution in the world’s oceans and employ strategies to eliminate the accumulation of plastic pollution in the 5 subtropical gyres.” As I see it, the rhetoricians need the scientists to gather more definitive research; the scientists need the

rhetoricians to effectively communicate their ideas, and ocean life needs humanity to slow their consumption and take responsibility for their own actions. The metaphor must help them visualize the phenomena to an out-of-sight problem.

Soup: Pros and Cons

Doucette advises his audience to think of the plastic pollution in the ocean as, "a swirling vortex of plastic soup" (54), which connects to Moore's claim that, "you can't go pick this stuff up" (57). However, as Osborn points out, "metaphors are grounded in human experience." This becomes an issue for a rhetor when their audience has no experience with the tenor and the metaphor must be created from a salient word or phrase. Ironically, those who choose to use the term "garbage patch" frame a phenomena that affects life in the ocean to beings that live on land. This constraint has forced a comparison between attributes of land to attributes of water. The term plastic soup refers to an aqueous environment that many people have encountered at the dinner table, yet it still fails to fully represent the complexity of the ocean. A soup is a contained body of both liquid and solid material, yet Moore points out that the plastic, "is coming from other places and screwing up those parts of the ocean too" (57). Doucette mentions the complexity of the ocean, which is affected by temperature, wind, celestial, and a number of other factors that keep any sort of convergence point for debris in a constant state of motion.

So why use a metaphor that has already been tried? The metaphor has since only accompanied the garbage patch metaphor instead of replacing it. This becomes an issue when matching the language of the problem to the specific language of policy and law. The garbage patch metaphor's most influential limitation on policy jargon resides in both its name and definition, yet as of now has remained solely in scientific journals and out of public discourse. That is, the many tiny particles, which outnumber the oceans primary food source 6:1 in many

areas, are not considered trash. In Moore's study titled "Quantity and Type of Plastic Debris Flowing From Two Urban Rivers to Coastal Waters and Beaches of Southern California" submitted in 2010 reported, "findings indicate there is a significant amount of plastic debris, which due to its size, is not subject to regulation under current TMDLs for trash." Policy may overlook or fail to include a detrimental component of the diverse debris, if spoken under the topic of an oceanic trash/garbage patch. Current federal legislation for marine debris prevention in the Marine Debris Research, Prevention, and Reduction Act includes both trash and plastic. Yet, legislation regarding a garbage patch wouldn't necessarily include all actual trash, and therefore requires the indicative *plastic* in *plastic soup*. No other pollutant in the ocean has such a lengthy lifespan, diverse shapes, toxic chemicals, density variation, and accumulation.

The word soup, although limited, has advantages to reframing the problem to aid the only realistic plan to clean up the swirling plastic. Although the majority of intellectuals who study the subject suggest a change in plastic consumption to solve the problem, the trash there now still needs to be addressed. No solution seemed feasible by those who studied the marine debris data because for either economic, reliability, or effectiveness concerns. Until, an eighteen-year-old boy from Delft came up with a solution that worked with nature instead of against it. The boy, Boyan Slat, has collaborated with scientists and designers to draft a filter for the flotsam garbage. Instead of oil for propulsion, he plans to tether these crafts to the seafloor. Instead of nets that can cause by catch, he designed booms to channel the plastic into one container (boyanslat.com). These and other plausible advantages to the other models have been praised by scientists and professors (TEDx), yet overlook the non-flotsam plastic. His calculations on the effectiveness of the idea include the total sum of plastic estimated to be in the ocean. However, his design does not target plastic with densities too small to allow them to float. If the framework of this problem

changes, he might consider targeting more than the flotsam plastic. Moore points out in his 1999 to 2002 studies that surface films on even flotsam plastic can allow organisms to attach themselves and sink the plastic to varying depths (Discussion p4). Not only will this effect the type of plastic caught, but would alter his current calculations that point to a "clean ocean" in five years. The soup metaphor frames the density variation into the situation and thus works to constructively critique Slat's model. If he does not change it, the new metaphor will still illustrate that the problem is much deeper. This might even lead to a model for measuring plastic zones in terms of density variants to help understand the fluctuation and accumulation of specific areas.

In The Offing

In summation, the advantages to plastic soup as a metaphor range from matching policy jargon, critique of solutions, and a new framework for audience's pathways of behavior. I call for the garbage patch metaphor's replacement because it influences inappropriate action towards a solution. This debacle reveals the ways which rhetorical invention can aid or hinder the dissemination of research and studies. Scientists must consider a metaphor's power to shape the audience's perception of the issue or risk the failure of disseminating actual findings. When scientists and the public alike address the issue of cleaning up the debris, both would likely take different courses of action because of the way they talk about and understand the issue. On one hand, scientists understand the only way to deal with the issue is stopping the flow of plastic to the ocean. This means the solution calls for awareness and more ecological lifestyle practices. On the other, the public that talks about "heaps" or even "islands" of trash could assume it could just be siphoned up, like dumps on land. The reality that the water, with living organisms in the mix, is saturated with plastic makes it a more pressing and enduring issue. Environmentalists

who wish to create an ideology with solutions to the problem must also consider a metaphor's power, or risk the promotion of unwanted pathways of behavior. I anticipate the soup metaphor, as it was used by Moore and Doucette, to direct attention to the toxic plastic debris that permeates the ocean and its food chain. The characteristics of soup don't overlook flotsam material, but include it along with the smaller bits of plastic. Just as the rhetors who used "garbage patch," I presume this new metaphor will bring about a positive change. A metaphor's inherent simplicity and ersatz holds the power to help audiences see what they previously could not, but risks showing them what is not. However, the health of the ocean and the life that depends on it cannot stay content with current practices of pollution and the rhetoric that can change it.

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